

**Notice of Allowability**

Application No.

09/985,872

Examiner

John S. Chu

Applicant(s)

OSHIMA, YASUHIRO

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/24/03.
2. ☒ The allowed claim(s) is/are 2,3,5,6,11,13 and 15-31.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

John S. Chu  
Primary Examiner  
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### REASONS FOR ALLOWANCE

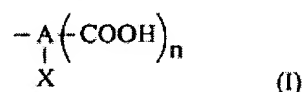
1. The following is an examiner's statement of reasons for allowance: The claimed invention is drawn to the following:

21. (New) A photosensitive lithographic printing plate comprising:

a support; and

a photosensitive layer,

wherein the photosensitive layer comprises a polyurethane resin binder which is a polyurethane resin obtained by a reaction of a compound comprising an aliphatic cyclic structure and two groups selected from carboxyl, hydroxyl and  $-NHR^1$  groups, wherein  $R^1$  represents one of a hydrogen atom and a substituted or unsubstituted monovalent hydrocarbon group having 1 to 20 carbon atoms, the compound being represented by the following formula (I) with a diisocyanate compound:



wherein A represents a  $(n+2)$  valent hydrocarbon group having 3 to 80 carbon atoms, the  $(n+2)$  valent hydrocarbon group having a substituted or unsubstituted aliphatic cyclic structure; each of X's represents independently one of a hydroxyl group and  $-NHR^1$  wherein  $R^1$  represents one of a hydrogen atom and a substituted or unsubstituted

2. (Withdrawn) A photosensitive lithographic printing plate comprising:

a support; and

a photosensitive layer,

wherein the photosensitive layer comprises a polyvinyl alcohol resin binder modified with an acetal skeleton comprising an aliphatic cyclic structure.

Applicants have cancelled independent claim 1 in favor of new claim 21 wherein the photosensitive lithographic printing plate now more specifically recites the polyurethane resin

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having a compound comprising formula (I) reacted with a diisocyanate compound. None of the prior art references of record disclose the polyurethane as now claimed wherein the polyurethane has a substituted or unsubstituted alicyclic group having an X side group and/or a carboxylic group attached to the alicyclic group as exemplified by formula (I).

The prior art to AOAI et al '711 and '582 fail to disclose the compound of formula (I) used to make the polyurethane. The AOAI et al references disclosed the use of an alicyclic diisocyanate compound which is reacted with a diol compound to form the polyurethane.

Because none of the prior art references of record disclose the claimed lithographic printing plate having the polyurethane as claimed, the invention to the elected species is seen as allowable and passed to issue.

The claimed invention to claim 2 previously being the non-elected species is now being examined as a result of the elected species being indicated to be allowable over the prior art of record.

The resin binder as seen in claim 2 is drawn to a photosensitive lithographic printing plate comprising a support, and a photosensitive layer wherein the photosensitive layer comprises a polyvinyl alcohol resin binder modified with an acetal skeleton comprising an aliphatic cyclic structure. The inventive step appears to be in the polyvinyl alcohol modified to become an acetal skeleton comprising an aliphatic cyclic structure.

The following cited references disclose polyvinylacetal-containing resins for printing plates, however the polyvinyl acetals disclosed lack the claimed polyvinyl acetal having an aliphatic cyclic group as recited in claim 2.

GANDINI et al, assigned to KODAK POLYCHROME GRAPHICS disclose the use of heterocyclic group modified polyvinyl alcohol resins. Further the same resin is modified by phenyl containing, alkyl group containing compounds, however lacks an aliphatic cyclic group.

WALLS et al '699, WALLS '907 and '270 et al assigned to the EASTMAN KODAK CO. disclose polyurethane containing and polyvinyl acetal containing compositions for printing plates the polyvinyl acetals resins are alkyl and aromatic groups modified polyvinyl alcohols. None of the WALLS references disclose or claim a modifying group which has an aliphatic cyclic group as currently claimed.

Newly cited references to BAUMANN et al, TIMPE et al and SAVARIAR-HAUCK et al assigned to SUN CHEMICAL CORP. disclose polyvinyl acetal resins used in printing plates, however theses references like those aforementioned lack an aliphatic cyclic group containing aldehyde used to modify the polyvinyl alcohol groups.

ALI et al '381 assigned to 3M disclose polyvinyl acetal group containing resins wherein the resin has been modified by aromatic groups and acid groups to form the acetal resin. This reference lacks the claimed aliphatic cyclic group in the polyvinyl acetal as claimed.

MUELLER-HESS et al '779 and '772 and PAWLOWSKI et al, assigned to HOECHST AKTIENGESELLSCHAFT, disclose polyvinyl acetal containing resins which are made by modifying a polyvinyl alcohol resin with an aldehyde. None of the aldehyde compounds disclosed in the references above use an aliphatic cyclic group containing aldehyde compound to modify the polyvinyl alcohol as currently claimed.

PLATZER et al assigned to HOECHST CELANESE CORP. teach color proofing material comprising polyvinyl acetal resins wherein these resins lack the claimed aliphatic cyclic

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group. The reference discloses modifying the polyvinyl alcohol with the conventional lower alkyl containing aldehydes.

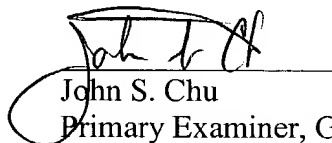
Because none of the references of record disclose either the claimed elected species for the polyurethane resin having a group of formula (I) or the polyvinyl acetal resin having an aliphatic cyclic group, claims 2,3,5,6, 11, 13, 15-31 are seen as allowable and passed to issue.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

The fax phone number for the USPTO is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

  
John S. Chu  
Primary Examiner, Group 1700

J.Chu  
February 22, 2004